ZIMBABWE SCHOOL EXAMINATIONS COUNCIL
General Certificate of Education Advanced Level

GEOGRAPHY 6037/3

PAPER 3 Practical Test

SPECIMEN PAPER 3 hours

Additional materials:
Answer paper

TIME 3 hours

INSTRUCTIONS TO CANDIDATES

Write your name, centre number and candidate number in the spaces provided on the answer paper/answer booklet.

Answer question 1, one question in Section B and one question in Section C.

Write your answers on the separate answer paper provided.

If you use more than one sheet of paper, fasten the sheets together.

INFORMATION FOR CANDIDATES

The number of marks is given in brackets [ ] at the end of each question or part question.

Sketch maps and diagrams should be drawn whenever they serve to illustrate an answer.

This specimen paper consists of 7 printed pages and 1 blank page.

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SECTION A: STATISTICS

Answer **all** questions in this section.

1 **(a)** **(i)** Outline **four** characteristics of a normal distribution curve. **[4]**

Table 1.1 shows number of vehicles passing a traffic count point on selected days in Harare

Table 1.1

Day	1	2	3	4	5	6	7	8	9	10
Number of vehicles	50	75	80	92	60	70	63	42	75	82

(ii) Using the data on **Table 1.1** calculate the mean, median, mode and range. [4]

(b) **(i)** Calculate the spread of the data around the mean using standard deviation. [7]

(ii) Using the formula $V = \frac{\sigma}{\bar{X}}$ x 100 calculate the variance. [3]

(iii) Comment on the deviation of the data from the mean. [3]

(c) In a certain area 60% is underlain by granite rock, 25% by limestone and 15% by basalt.

Find the probability that

(i) a sample taken at random from the area is from basalt area. [2]

(ii) a sample taken at random from the area is from either the granite or limestone part. [2]

SECTION B: MAPPING

Answer one question in this section.

2 TOPOGRAPHICAL MAP

With reference to the map provided (1: 50 000, Stapleford Forest, Zimbabwe),

(a) draw an annotated sketch section showing the main relief features along horizontal gridline 48. [6]

(b) describe and explain how the landforms along the sketch section might have been formed. [10]

(c) explain the drainage features shown on the map extract. [9]

3 GEOGRAPHICAL INFORMATION SYSTEM

(a) You are required to make a point map for Mr Zulu's orchard using coordinates for fruit trees. The co-ordinates were obtained from GPS, recorded and saved on a spreadsheet.

You are provided with the following materials:

Table 3.1

I.D	FRUIT TREE	EAST (x)	SOUTH (y)
1.	Orange	31.32347	– 17.3168
2.	Orange	31.32351	– 17.3168
3.	Orange	31.32355	– 17.3167
4.	Orange	31.32361	– 17.3167
5.	Orange	31.32365	– 17.3167
6.	Orange	31.32367	– 17.3167
7.	Orange	31.32371	– 17.3167
8.	Orange	31.32358	– 17.3167
9.	Orange	31.32354	– 17.3167
10.	Orange	31.32349	– 17.3167
11.	Orange	31.32346	– 17.3168
12.	Orange	31.32344	– 17.3167
13.	Orange	31.32341	– 17.3167
14.	Orange	31.32343	– 17.3167
15.	Paw paw	31.32325	– 17.3161
16.	Paw paw	31.32319	– 17.3161
17.	Mango	31.32361	– 17.3166
18.	Mango	31.32374	– 17.3162
19.	Mango	31.32378	– 17.3162

- Computer
- GPS software
- Colour printer
- 1 white bond paper

Proceed as follows:

(i) create an excel file and save it as Mr Zulu's Orchard. [5]

(ii) Open QGIS software. [1]

(iii) Open the file saved as Mr Zulu's orchard in QGIS. [1]

(iv) Create a new shape file for orange trees and change the colour to yellow [2]

(v) Create a new shape file for paw-paw trees and change the colour to red. [2]

(vi) Create a new shape file for mango trees and change the colour to green. [2]

(b) **(i)** Open new print composer [1]

(ii) Add new map [1]

(iii) Add title [1]

(iv) Add new scale bar [1]

(v) Add new legend [1]

(vi) Add direction arrow [1]

(vii) Export the map as image [1]

(viii) Print the map [1]

(c) Describe and explain the distribution of fruit trees in Mr Zulu's orchard. [4]

4 **(a)** You are provided with a mirror stereoscope and photographs of Gweru 1:25 000 of 21/07/85. Interpret the image based on the following characteristics (use cardinal points to give directions) (see Printers' copy)

(i) Shape [2]

(ii) Pattern [2]

(iii) Texture [2]

(iv) Size [2]

(v) Association [2]

(vi) Shadow [2]

(b) Identify the importance of each of the following components of the remote sensing system in image acquisition

(i) Radiation [2]

(ii) Energy Source [2]

(iii) Target Sensor [2]

(iv) Image [2]

(c) Using examples explain passive and active sensors in remote sensing

Passive

Active

[5]

SECTION C: RESEARCH TECHNIQUES

Answer **one** question from this section.

5 PHYSICAL COMPONENTS

You are undertaking an investigation into the vegetation characteristics along a hill slope.

(a) Describe how you would prepare to carry out the investigation. [5]

(b) How would you carryout the investigation to establish the characteristics of the vegetation in your study area? [8]

(c) Describe a technique which you would use to present your findings. [7]

(d) Describe and suggest reasons for the variations in vegetation characteristics downslope. [5]

6 HUMAN COMPONENTS

(a) **Table 6.1** shows results from an investigation on population of Zambia in 1989.

Table 6.1

AGE	TOTAL NO.	MALE %	FEMALE%
0-4	7 195	7.2	6.8
5-9	7 624	7.7	7.8
10-14	6 638	7.3	5.6
15-19	5 392	6.0	4.4
20-24	4 737	5.0	4.2
25-29	3 876	3.8	3.7
30-39	6 149	6.1	5.8
40-49	4 007	4.7	3.6
50-59	2 677	2.8	2.4
60^{++}	3 286	3.4	3.0
TOTALS	51 586	53.5	46.5

(i) Use the data in **Table 6.1** to draw an age sex pyramid for Zambia. [8]

(ii) Account for the shape of your pyramid. [5]

(b) Outline the advantages and disadvantage of the data presentation above. [7]

(c) Identify and describe another technique that can be used to show the same data in **Table 6.1** above. [5]

7 MITIGATION AND ADAPTATION

(a) Outline practical skills that you will employ to trace the development of a gully in your community. [6]

(b) Give the steps you would use to reclaim the gully in 7(a) above.
[12]

(c) Assess the successes of measures taken to reduce siltation in rivers in Zimbabwe. [7]

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